

Residential, Commercial, Industrial, Municipal (RCIM) Work Group

Charge from Groundwater Management Area Advisory Committee

Working Group Members

Robert Farrell, Chair (Port of Sunnyside), Elizabeth Sanchez (Yakama Nation), Ryan Ibach (Yakima Health District,) Jan Whitefoot (Concerned Citizens of Yakama Reservation,) John Van Wingerden (Port of Sunnyside,) Stuart Turner (Turner & Co.), Tom Ring (Yakama Nation), Kathleen Rogers (Citizen Rep), Sanjay Barik (Ecology,) Dan DeGroot (Yakima Dairy Federation)

Meetings/Calls Dates

Meeting: April 30, 2015 1:00 pm – 3:00 pm

Participants

Present: Robert Farrell, Chair (Port of Sunnyside), Ryan Ibach (Yakima Health District), Kathleen Rogers (Citizen Rep), Jim Davenport (Yakima County), Lisa Freund (Yakima County), Yakima County Support Staff – Greta Smith

Key Discussion Points

- **Discuss the nitrogen loadings to the aquifer from RCIM sources: i.e., Septic systems, fertilizer use and hobby farms**
- **Discuss the existing and future RCIM groundwater uses**

Bob Farrell reminded the group that septic system data will be provided by Melanie Redding, Department of Ecology, via the Data working group. The data will quantify the amount of nitrogen produced by septic systems, and how much of that source hits the groundwater. Bob also referenced “Residential Waste Discharge,” (Metcalf & Eddy. 1991. *Wastewater Engineering Treatment and Reuse*, G. Tchobanoglous, F. L. Burton, McGraw Hill, New York) a source he used to identify wastewater flow rates. That document was shared with the RCIM in an email dated March 26, 2015.

Kathleen Rogers presented the information she gathered in regards to the amount of nitrogen applied each year at Sunnyside School Dist., Sunnyside Christian School, City of Sunnyside, Sunnyside Golf Courses and Cemeteries for lawn maintenance. She inquired about the number of acres covered and the type of fertilizer used as well. In calculating acres and amounts used, it was determined that approximately 40-60 lbs. of nitrogen is used per acre per year. This number will be a starting point to refer to for managed lawns of the city, school districts, cemeteries and golf courses.

The group discussed residential uses of nitrogen and it was speculated that approximately 1 in 10 residents apply nitrogen to their lawns. Some factors that deter usage are the cost, the use

of water and the upkeep of the green lawn. From this information it was estimated that residential fertilizer application is 10% of institutional nitrogen application rate or roughly 5 lbs. of nitrogen per acre per year.

The group was asked if they were willing to use the 5 pounds per acre as a starting point for calculating residential application; the group agreed. There was a discussion about what percentage of nitrogen used is organic such as manure, verses non-organic such as bags purchased at the store. It was estimated that it is roughly 50/50.

Commercial nitrogen application, such as through a lawn service, was discussed and it was determined that John Wingerden would be a good source of information for those numbers. Bob indicated he would ask John to contact commercial services to ask how much nitrogen they typically apply for customers.

Hobby farms and the nitrogen use at these farms was discussed. It was presumed that hobby farms are 5 acres or less and can be either animal or crop based. The management of these farms is varied due to what the hobby farm is used for. The working group adopted what it believed to be a reasonable hypothesis of hobby farm nitrogen contribution, and worthy of review and comment by the Data Collection Working Group. It is presumed that the acreage of hobby farms is 10% of Irrigated/Ag and that is a small percentage. Jim Davenport felt it could be presumed that 5% of GWMA is hobby farms. Hobby farms were further presumed to use 50% organic fertilizers and 50% inorganic fertilizers. The amount of nitrogen added at hobby farms should be presumed to be 50% of that applied in commercial crop operations.

Bob Farrell volunteered to speak to a friend who owns a hobby farm, and inquire about the size of the operation, how much of it is farmed, if fertilizer is applied and if so, how much. The purpose is to establish components that can later be adjusted.

Bob then asked the group if they agreed that all nitrogen loading sources related to RCIM had been identified, and they replied "yes."

The group discussed Groundwater use and the future uses for drinking water, potable water and irrigation. It was not identified in the original goals but it is listed in the WAC and is something that the group can look at.

Jim Davenport reminded the group that the GWAC is not addressing the issue of water supply. The group's focus is water quality, and how the application of water on top of nitrogen drives nitrogen down into the groundwater. He added that water supply keeps resurfacing because it's mentioned in WAC 173-100; however, Ecology's interpretation is that the WAC presents a laundry list: the GWAC does not need to address everything in the laundry list. He concluded by recommending that the group not spend too much time addressing groundwater supply.

The discussion then focused on food processors—industrial sources—that have vegetative by-products and where the waste ends up. Is it returned to the water waste system or does it go elsewhere such as being ground up into feed, taken to the landfill or processed into fuel? Bob asked if the RCIM needs to address nitrogen loading from these industrial activities, and Jim replied yes, that information should be filled in.

To determine that information, it was decided to look at the food processor businesses (canneries, wineries, etc.) in the GWMA area, which employ 50 or more people, to determine how much of the processing waste may contribute to nitrogen loading. Kathleen Rogers will speak with Bud Rogers to compile the list of such businesses in the area between Toppenish and Grandview.

Action Item: Kathleen and Bud Rogers will compile a list of food processing businesses in GWMA area.

Action Item: Bob Farrell will investigate how much nitrogen a typical hobby farmer might apply to his operations. He will also ask John Van Wingerden to investigate the typical amount of fertilizer a commercial operation applies to residential properties.

Resources Requested

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Recommendations for GWAC

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Deliverables/Products Status

-

Proposed Next Steps

- Next RCIM Meeting scheduled for May 28, 2015 10:00 AM-noon, Radio KDWA.